

ring-width curve for one (497D) is shown in Fig. 3 in its synchronous position. The final rings of each timber cluster in date between 1135 and 1145, and the two with sapwood remnants suggest that the felling date and the year of construction of the waterfront can be estimated at 1160 ± 5 .

Waterfront I

The northernmost waterfront had been demolished but sufficient remained to indicate sill-beam construction with vertical boards, dating to the mid twelfth century.¹⁸ Seven sampled timbers included planks and the sill-beam, with up to 225 rings, but only one young example retained some sapwood.

Therefore, despite dating three of the timbers (Fig. 4), no accurate felling date could be obtained in the absence of sapwood. The last ring of the latest timber (609) falls in 1100, and to allow for the complete sapwood zone, the timbers must have been felled after about 1125, probably soon after judging from the number of rings, the decreasing ring-widths and the date of Waterfront II.

Finally, a stray twelfth century timber (629 in Fig. 4) was also examined and dated; with its final ring formed in 1054, it must have been felled after c. 1080.

Discussion

Eight corresponding tree-ring curves from indi-

18 Schofield *ibid.* diagram on p. 55.

19 Hollstein, *op. cit.* fn 16.

20 B. Huber, & V. Giertz-Siebenlist. "Unsere tausend-jährige Eichenchronologie durchschnittlich 57 (10-150)

vidual timbers of all three waterfronts were averaged to provide a mean curve spanning the period AD 950 to 1193. The mean curve shows excellent agreement with the west German reference curve¹⁹ ($t=5.90$), with the south German reference curve²⁰ ($t=7.76$) and with a London curve derived from Westminster Abbey chests²¹ ($t=8.50$), thus providing additional corroboration of the tree growth pattern over this period.

While conditions of growth must have been very similar both in south and west Germany and in south-east England over these centuries, there are significant differences in isolated years, when a wide ring in one curve may be replaced by a narrow ring in another. The two most obvious differences are in 1117, when the German curves show a wide or average ring and the English curves a narrower ring, and in the 1160's when a very deep trough (5 years of very slow growth) in the German curves is much reduced in the English curves.

However, the otherwise close correspondence between the growth patterns of oak in Germany and in England, and the absolute dating of the Seal House waterfronts as a result, is encouraging since it enables us to hope for equally good cross-dating in other periods and the quicker construction of an English reference curve extending back into Roman and prehistoric contexts.

fach belegt," *Sitz. Osterr. Akad. Wiss.* **1178** (1969) 37-42.

21 Details kindly supplied by Dr. J. M. Fletcher of Oxford.

Excavations & Post-Excavation Work

City, by Museum of London. Department of Urban Archaeology. A series of long term excavations. Enquiries to Brian Hopley, Chief Urban Archaeologist, DUA, 71 Basinghall Street, E.C.2. (01-606 1933/4/5). For information on post-excavation work, contact Penny MacConoran at this address.

Fulham, by Fulham Archaeological Rescue Group.

Late Neolithic site, Lygon Almhouses, Fulham Palace Road, S.W.6. (Saturdays only). Enquiries to Keith Whitehouse, 56 Tamworth Street, S.W.6. (01-385 6038).

Hammersmith, by Fulham Archaeological Rescue Group. All types of work and finds: Neolithic, Roman and later. Tuesdays and Thursdays, 7-10 p.m., St. Peter's Church Hall, Varna Road, S.W.6. Contact: K. Whitehouse, 56 Tamworth Street, S.W.6 (01-385 6038).

Inner London Boroughs, by the Inner London Unit. Several rescue sites in various areas. Enquiries to Irene Schwab (01-242 6620).

Kingston, by Kingston-upon-Thames Archaeological Society. Rescue sites in the town centre. Enquiries to Marion Smith, Kingston Museum, Fairfield Road, Kingston. (01-546 5386).

North-East Greater London, by Passmore Edwards Museum. Enquiries to Pat Wilkinson, Passmore Edwards Museum, Romford Road, E.15. (01-534 4545).

Putney, by Wandsworth Historical Society. Two acre site at junction of Felsham Road and High Street lies on Roman and medieval settlements. Alternate weekends. Enquiries to Nicholas Farrant, 7 Coalecroft Road, S.W.15. (01-788 0015).

Shadwell, by Inner London Archaeological Unit. Enquiries to Irene Schwab (01-242 6620).

Southwark, by Southwark and Lambeth Archaeological Excavation Committee. Several sites from the Roman period onwards. Enquiries to Harvey Sheldon, S.L.A.E.C., Montague Chambers, Montague Close, S.E.1. (01-407 1989).

Surrey, by Surrey Archaeological Society. Enquiries to David Bird, Field Officer S.A.S., Castle Arch, Guildford, Surrey. (0483-32454).

GENERAL EXCAVATIONS

The Council for British Archaeology produces a monthly *Calendar of Excavations from March to September*, with an extra issue in November and a final issue in January summarising the main results of fieldwork. The *Calendar* gives details of extra-mural courses, summer schools, training excavations and sites where volunteers are needed. The annual subscription is £2.50, post-free, which should be made payable to C.B.A., 7 Marylebone Road, N.W.1.